

What is claimed is:

1. A method of conversion-to-array for creating array configuration data by classifying the patterns congruent with a master pattern, which is a reference graphic for repetition, in the patterns arranged as mask patterns of a LSI, so that the number of the repetitions of the congruent pattern is the largest one when the congruent pattern is arranged repeatedly with a predetermined repetition pitch.

2. The method of conversion-to-array according to claim 1, wherein the repetition pitch in case of the maximum number of the repetitions is selected from a plurality of predetermined candidates of the repetition pitch.

3. The method of conversion-to-array according to claim 1 or 2 comprising steps of:

selecting a predetermined number of patterns near a master pattern, which is a reference pattern for repetition, as candidate patterns from the patterns which are congruent with said master pattern and exist on the line in the X-direction on which said master pattern exists;

computing the intervals between said master pattern and said candidate patterns as candidates of repetition pitches in the X-direction;

computing the numbers of the repetitions in the X-direction of the patterns, on said line in the X-direction, which are repeated with said candidates of repetition pitches in the X-direction starting at said master pattern; and

creating the X-direction array including the repetition pitch in the X-direction, for which said number of the repetitions in the X-direction is the largest one, in said candidates of repetition pitches, the number of the repetitions in the X-direction concerned, and said master pattern.

4. The method of conversion-to-array according to

claim 3 further comprising a step of taking one of the patterns which are not included in the created X-direction arrays as a further master pattern to create a further X-direction array.

5           5.    The method of conversion-to-array according to claim 4 comprising steps of:

                  taking one of the X-direction arrays as a master array and selecting a predetermined number of X-direction arrays near said master array as candidate  
10           arrays from the arrays which are congruent with said master array and exist on the line in the Y-direction on which said master array exists;

                  computing the intervals between said master array and said candidate arrays as candidates of  
15           repetition pitches in the Y-direction;

                  computing the numbers of the repetitions in the Y-direction of the X-direction arrays, on said line in the Y-direction, which are repeated with said candidates of repetition pitches in the Y-direction  
20           starting at said master array; and

                  creating the Y-direction array including the repetition pitch in the Y-direction, for which said number of the repetitions in the Y-direction is the largest one, in said candidates of repetition pitches in  
25           the Y-direction, the number of the repetitions in the Y-direction concerned, and said master array.

                  6.    The method of conversion-to-array according to claim 5 further comprising a step of taking one of the X-direction arrays which are not included in the created Y-direction arrays as a further master array to create a  
30           further Y-direction array.

                  7.    The method of conversion-to-array according to claim 6 further comprising a step of creating said array configuration data including a master pattern, the  
35           repetition pitch in X-direction and the number of repetitions in X-direction included in the X-direction array corresponding to said master pattern, and the

repetition pitch in Y-direction and the number of repetitions in Y-direction included in the Y-direction array corresponding to said X-direction array.

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